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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/304,193    05/03/99    WALDMAN MD    S    TJU-2381

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EXAMINER

HOLLERAN, A

ART UNIT

PAPER NUMBER

1642

DATE MAILED:

01/31/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**09/304,193**

Applicant(s)

**Waldman et al**

Examiner

**Anne Holleran**

Group Art Unit

**1642**



☒ Responsive to communication(s) filed on Nov. 8, 2000

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 9-26 is/are pending in the application

Of the above, claim(s) 9-22 is/are withdrawn from consideration

☐ Claim(s) is/are allowed.

☒ Claim(s) 23-26 is/are rejected.

☐ Claim(s) is/are objected to.

☐ Claims are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number)

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received:

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 5

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

## **DETAILED ACTION**

### ***Election/Restriction***

1. Applicant's election with traverse of Invention group II, claims 23-26, in Paper No. 8, filed November 8, 2000 is acknowledged. The traversal is on the ground(s) that it would not be a burden to examine Invention group I in addition to Invention group II. Applicant's arguments have been considered but not found persuasive because Invention group I is classified differently which establishes a prima facie case that a serious burden would be imposed on the examiner. Applicant's traverse does not provide evidence to rebut the prima facie case that examination of both groups would impose a serious burden on the examiner. MPEP 803. Therefore, the restriction requirement is maintained.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 9-26 are pending.

Claims 9-22, drawn to a non-elected invention, is withdrawn from consideration.

Claims 23-26 are examined on the merits.

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*Claim Objections*

3. Claims 23 and 25 are objected to because of the following informalities: a typographical error for the term "lamina propria" and for the term "hybridized" which is recited as "hybridize" in step (d) of claim 23 and in step © of claim 25. Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

4. Claims 23-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 is vague and indefinite because the method is drawn to a method of detecting invasion into the lamina propria while step (b) recites "contacting said tissue", where said tissue is intestinal tissue. This rejection would be obviated if step (b) were to be amended to recited "contacting said sample".

5. Claims 23-26 are rejected under 35 U.S.C. 112, first paragraph, because the specification does not reasonably provide enablement commensurate with the scope of the claimed invention. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

Factors to be considered in determining whether undue experimentation would be necessary to practice the full scope of the claimed invention are: 1) quantity of experimentation necessary; 2) the amount of direction or guidance presented in the specification; 3) the presence or absence of working examples; 4) the nature of the invention; 5) the state of the prior art; 6) the relative skill of those in the art; 7) the predictability or unpredictability of the art; and 8) the breadth of the claims. See Ex parte Forman, 230 USPQ 546, BPAI, 1986.

Claims 23-26 are broadly drawn to in situ methods of detection of invasion of neoplastic colorectal cells into the intestinal lamina propria comprising contacting samples of tissue with oligonucleotide probes which hybridize to mRNA encoding ST receptor protein. The scope of the claims includes methods using a probe having any nucleic acid sequence that may be derived from an mRNA that encodes ST receptor protein. The nature of the claimed invention is that it is a method which relies on being able to discriminate mRNA molecules encoding ST receptor protein from mRNA molecules which may have a similar sequence. In addition, the nature of the claimed invention is that it is a method which relies on the assumption that mRNA molecules encoding ST receptor molecules are detectable in colorectal cancer cells and not detectable in any of the cells which make up the intestinal lamina propria when the intestinal lamina propria has not been invaded by cancer cells.

The specification teaches that the probes to be used in the claimed methods may be designed using the information in U.S. Patent No. 5,237,051 and F.J. Sauvage et al (1991 J. Biol. Chem. 266: 17912-17918; cited in IDS) which provide cDNA sequences of the rat and human,

respectively, ST receptor protein. U.S. Patent No. 5,237,051 teaches that rat ST receptor is only found in intestinal cells but also teaches that Northern blot hybridization may not be accurate enough to detect mRNA expression in other cell types. Sauvage et al teaches that the specificity of tissue expression of the human ST receptor has not been established (see page 17917, 2nd col.).

The need for probes which would selectively hybridize to mRNA encoding ST receptor appears to be important because it is not clear from the prior art what the tissue specificity is of ST receptor expression. Schulz et al (Schulz, S. et al. J. Biol. Chem., 267(23): 16019-16021, 1992; cited in IDS) teaches that use of oligonucleotide probes derived from the sequence encoding the rat ST receptor detect ST receptor (referred to as GC-C) in the adrenal gland, brain cDNA library, olfactory mucosa (by PCR) and tracheal mucosa (page 16021, Table 1). However, U.S. Patent 5,518,888 (Waldman et al, published May 21, 1996; cited in IDS) teaches that ST receptors are only localized in cells lining the intestinal tract in placental animals. Taken together, the prior art teaches that while the protein is expressed only in intestinal cells, it is possible to detect encoding mRNA in other cells by oligonucleotide probe methods. The specification has not established that normal cells making up the intestinal lamina propria do not express mRNA species that have regions of sequence similarity that would be detected by a non-specific probe. Thus, one of skill in the art would need to engage in undue experimentation to make and use the claimed methods wherein the probe was derived from any part of a polynucleotide sequence encoding ST receptor protein.

### *Double Patenting*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 23-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 4 of U.S. Patent No. 5,601,990. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims only differ in that the instant claims are drawn to in situ methods for detecting invasion into the lamina propria of the intestine and the patented claims are drawn to methods for detecting metastasized colorectal cancer cells. Because invasion into the lamina propria is the first step of the metastatic process, it would be obvious to one of skill in the art a method for detection of colorectal cancer cells in non-intestinal cells would encompass methods of detecting colorectal cancer cells in the lamina propria of the intestine.

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*Conclusion*

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Anne Holleran, Ph.D. whose telephone number is (703) 308-8892.

Examiner Holleran can normally be reached Monday through Friday, 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Caputa, Ph.D. can be reached at (703) 308-3995.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist at telephone number (703) 308-0196.

*ALH*

Anne L. Holleran  
Patent Examiner  
January 29, 2001

*AW*

ANTHONY G. CAPUTA  
SUPERVISOR  
JANUARY 29, 2001